

CLAIMS

- 1 1. A method for operating a first server to receive backup service from a second server
2 when the first server detects an operational fault and decides to discontinue handling service
3 requests, the method comprising the steps of:
- 4 sending a first indication from the first server to the second server when the first server
5 detects the operational fault that will require it to shut down;
- 6 sending a second indication from the first server to the second server indicating the type
7 of operational fault detected by the first server;
- 8 receiving a shutdown command at the first server from the second server if the second
9 server can provide backup service to the first server;
- 10 completing existing service requests to the first server; and
- 11 shutting down the first server.
- 1 2. The method in accordance with claim 1 further comprising the step of sending a periodic
2 request from the second server to the first server to stay shut down, after the first server has shut
3 down and its services are being provided by the second server.
- 1 3. The method in accordance with claim 2 further comprising the step of rebooting the first
2 server after the operational fault has been cured.
- 1 4. The method in accordance with claim 1 further comprising the step of monitoring the
2 status of the first server to detect any operational faults prior to sending of the first indication to
3 the second server in the event an operational fault is detected.

1 5. The method in accordance with claim 1 further comprising the step of letting the first
2 server complete certain functions it is performing at the time the operational fault is detected
3 before it shuts down.

1 6. The method in accordance with claim 5 further comprising the step of sending a periodic
2 request from the second server to the first server to stay shut down, after the first server has shut
3 down.

1 7. A method for operating a first server to provide backup service to a second server when
2 the first server detects an operational fault, the method comprising the steps of:
3 receiving a first request at the second server requesting the second server to take over the
4 operations of the first server when the first server has detected an operational fault that will
5 require it to shut down;
6 permitting the first server to complete certain functions it is performing at the time the
7 operational fault is detected before it shuts down;
8 taking over the functions of the first server by the second server after the first server has
9 shut down.

1 8. The method in accordance with claim 7 further comprising the step of monitoring the
2 operational status of the first server to detect any operational faults and cause sending of the first
3 request to the second server to take over the operations of the first server in the event an
4 operational fault is detected on the first server.

1 9. The method in accordance with claim 8 further comprising the steps of:

2 determining if the second server can provide backup service to the first server; and
3 requesting the first server to shut down if the second server can provide backup service to
4 the first server.

1 10. The method in accordance with claim 9 further comprising the step of receiving an
2 indication at the second server from the first server indicating the type of operational fault
3 detected by the first server.

1 11. The method in accordance with claim 10 further comprising the step of receiving a
2 periodic request at the first the first server sent from the second server for the first server to stay
3 shut down.

1 12. The method in accordance with claim 11 further comprising the step of rebooting the first
2 server after the detected operational fault has been cured.

1 13. Apparatus for transferring service requests from a first server to a second server in a
2 cluster of servers when the first server has a fault therein, said apparatus comprising:

3 first means in said first server for monitoring its operations, said first monitoring means
4 generating a first fault signal when it is determined that said first server has a fault therein, said
5 first fault signal being sent to said second server; and

6 wherein when said second server receives said first fault signal it permits said first server
7 to complete existing service request that are being processed by said first server and then takes
8 over and processes further service requests directed to said first server.

1 14. Apparatus for transferring service requests from a first server to a second server in a
2 cluster of servers when the first server has a fault therein, and said first server sends a fault signal
3 to said second server upon there being a fault in said first server, said apparatus comprising:

4 first means in said second server for receiving said fault signal from said first server; and

5 wherein when said second server receives said first fault signal it permits said first server
6 to complete existing service request that are being processed by said first server and then takes
7 over said first server and processes further service requests directed thereto.

1 15. The apparatus in accordance with claim 14 further comprising memory means in said
2 second server, said first server generates a compilation of the status of service requests being
3 processed by said first server and sends said compilation to said second server to be stored in
4 said memory means thereat, said compilation being used by said second server to take over
5 processing of service requests directed to said first server in an orderly fashion.

1 16. The apparatus in accordance with claim 15 wherein after said second server takes over
2 processing of service requests directed to said first server, said second server transmits stay dead
3 signals to said first server causing it not to attempt to commence processing new service
4 requests.

1 17. The apparatus in accordance with claim 16 wherein said first and said second servers are
2 file servers.

1 18. A computer readable medium containing executable instructions for providing backup
2 service between a first server and a second server operating in a cluster mode when the first

3 servers experiences a fault that will cause it to shut down, the executable program instructions
4 comprising program instructions for:

5 sending a fault signal from the first server to the second server;

6 determining if the second server can provide backup service to the first server;

7 requesting the first server to shut down if the second server can provide backup service to
8 the first server; and

9 taking over the functions of the first server by the second server after the first server has
10 complete current operations and has shut down.

1 19. Apparatus for operating a first server to receive backup service from a second server
2 when the first server detects an operational fault, said apparatus comprising:

3 means for sending a first indication from the first server to the second server when the
4 first server detects the operational fault that will require it to shut down;

5 means for sending a second indication from the first server to the second server indicating
6 the type of operational fault detected by the first server;

7 means for receiving a shutdown command from the second server at the first server if the
8 second server can provide backup service to the first server; and

9 means for shutting down the first server.

1 20. Apparatus for operating a first server to provide backup service to a second server when
2 the first server detects an operational fault, said apparatus comprising:

3 means for receiving a first request at the second server from the first server requesting the
4 second server to take over the operations of the first server when the first server has detected an
5 operational fault that will require it to shut down;

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